

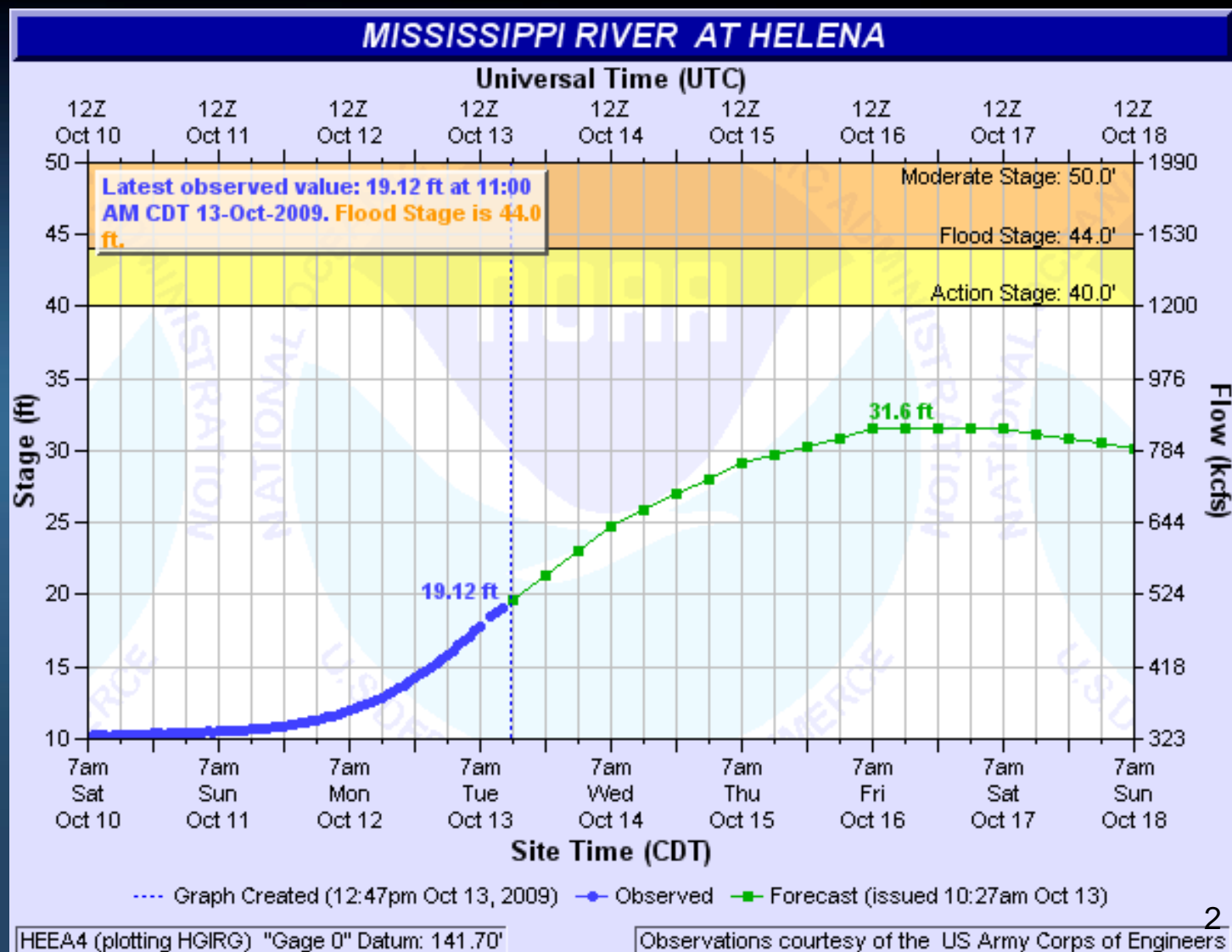
The USGS Streamgaging and Rainfall-River Forecasting System Improvements

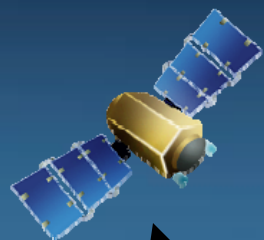
Rainfall-River Forecasting Joint Summit
October 19, 2009

Robert Mason
Robert Holmes
USGS



Why Streamgaging?





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources (District Access)

Data Category:
Real-time

Geographic Area:
United States

GO

News: [Recent changes](#)

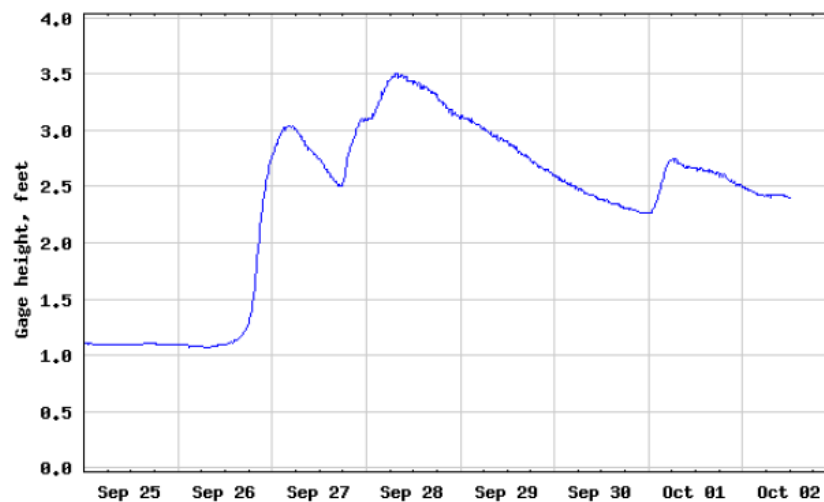
USGS 01073000 OYSTER RIVER NEAR DURHAM, NH

Gage height, feet

Most recent instantaneous value: 2.40 10-02-2008 12:15

Station operated in cooperation with the New Hampshire Department of Environmental Services.

USGS 01073000 OYSTER RIVER NEAR DURHAM, NH



----- Provisional Data Subject to Revision -----

Funding the USGS Streamgauge Network

Streamgages

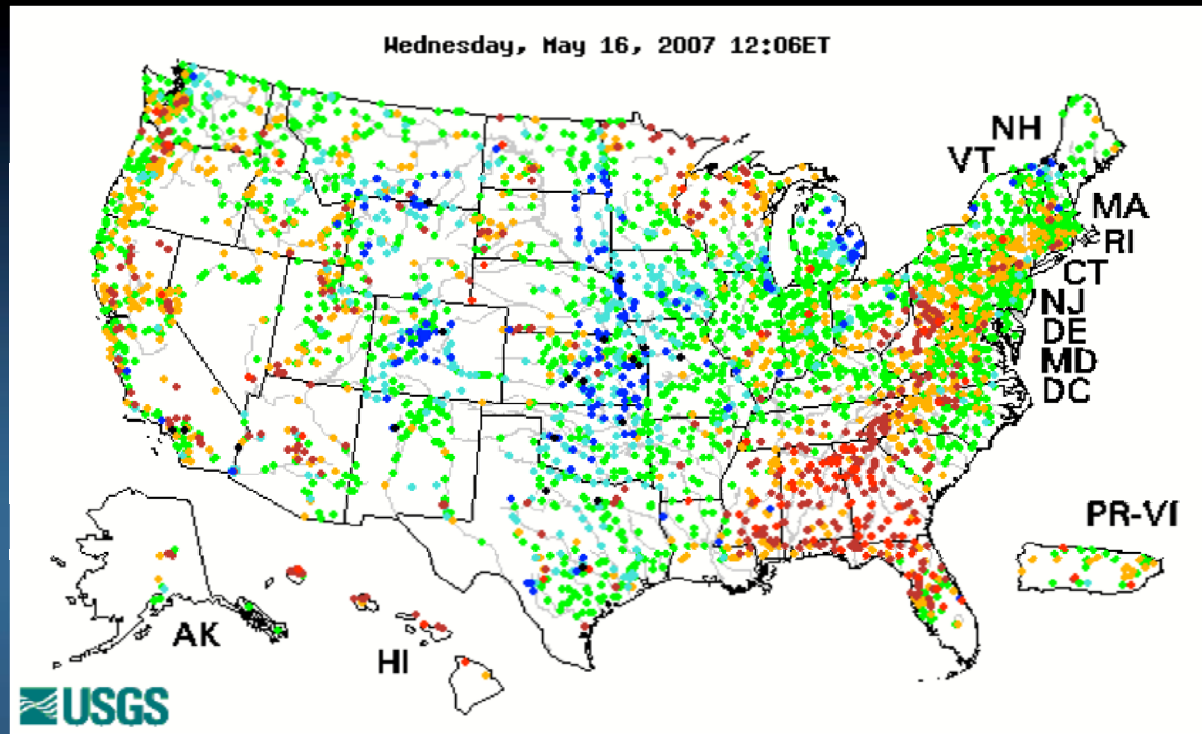
7,500 gages
97 % real-time

Network Costs

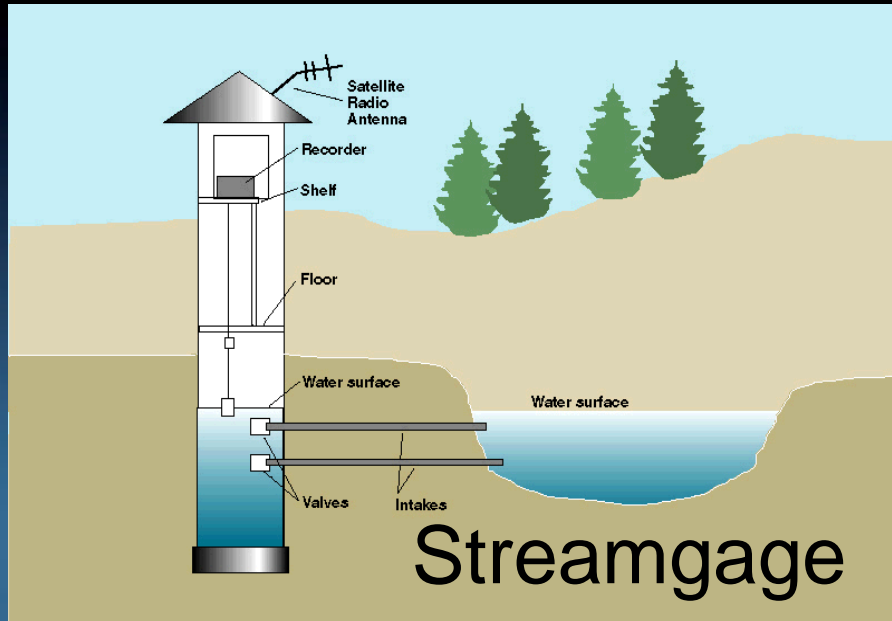
\$136M per year
850+ Partner
agencies

Funding Sources

State / Local Agencies	\$64M	47%
Other Federal Agencies	\$28M	20%
USGS Cooperative Program	\$24M	18%
USGS Nat'l Streamflow Info	\$20M	15%



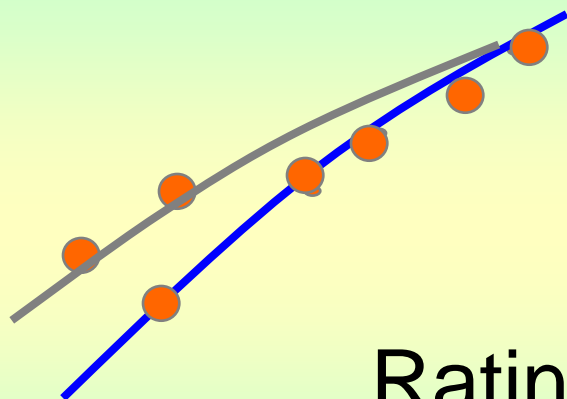
Streamgaging



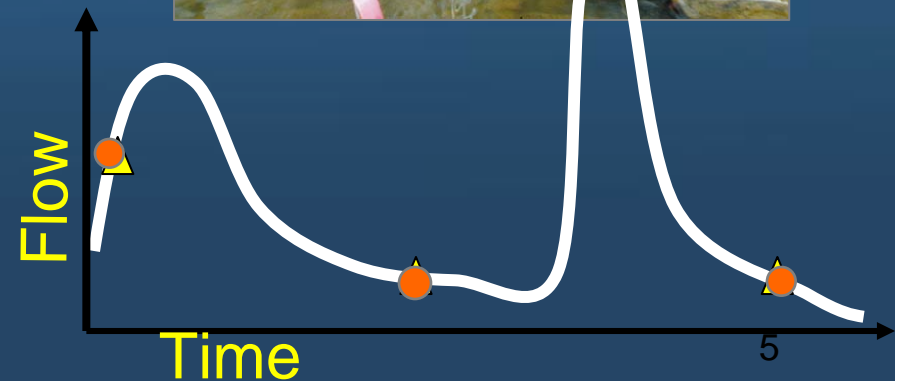
Flow Measurement



Stage



Ratings



Faster, Better Measurements

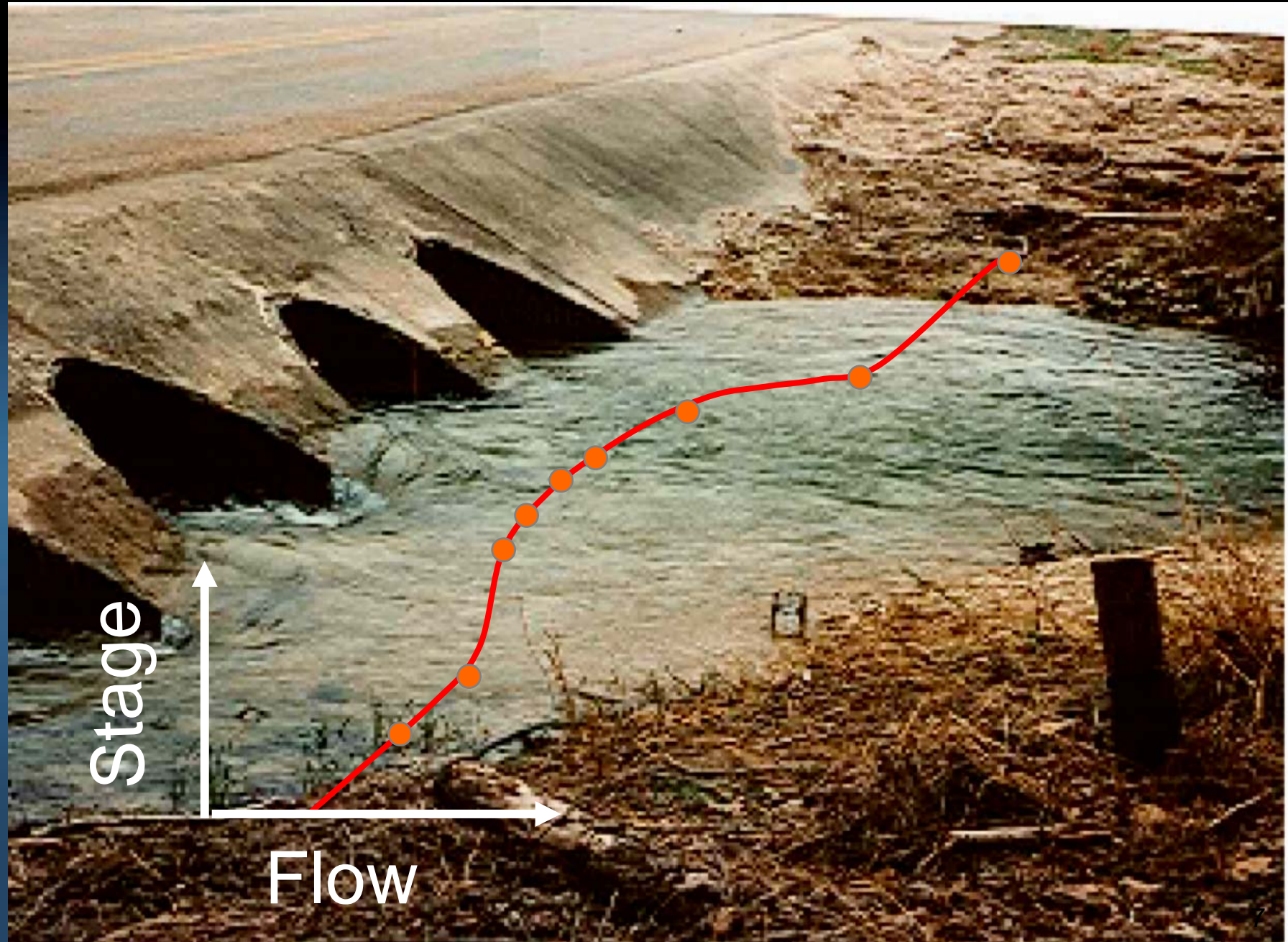


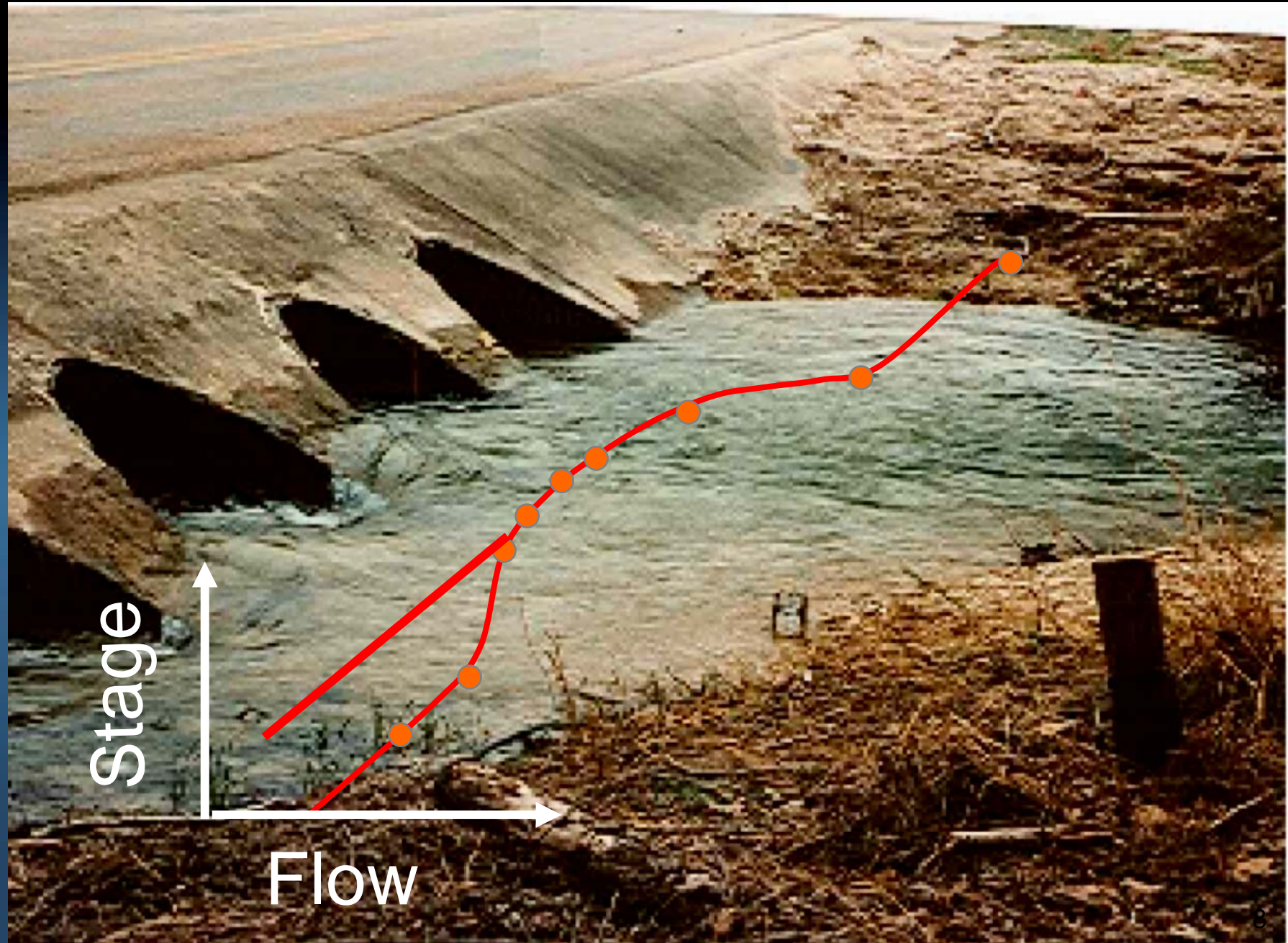
Before Acoustics (1991)

- 52 measurements
- 10 days
- Staff of 11 □
- Average time -- 96 min.

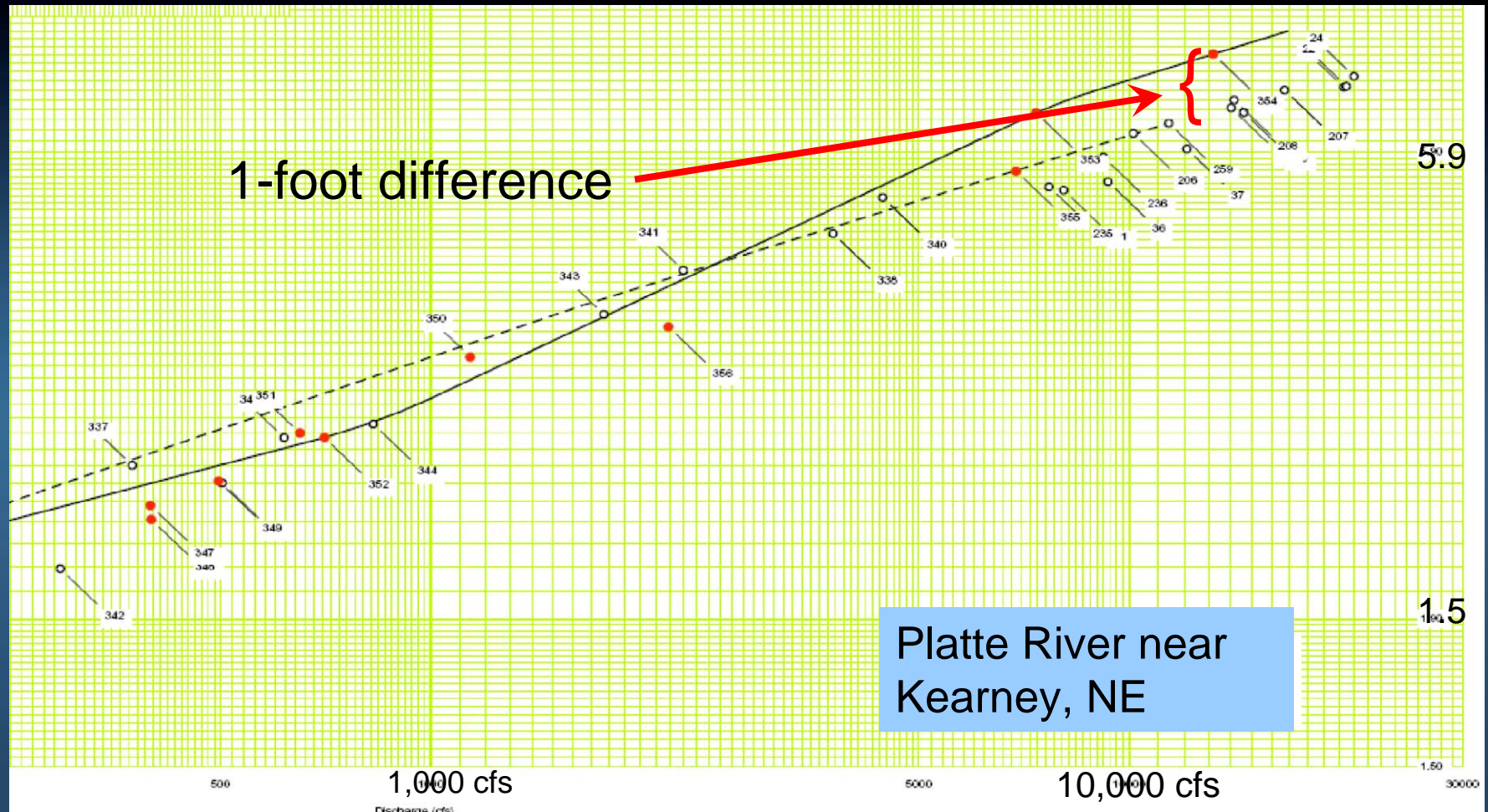
With Acoustics (2003)

- 62 measurements
- 10 days
- Staff of 6
- Average time -- 18 min.

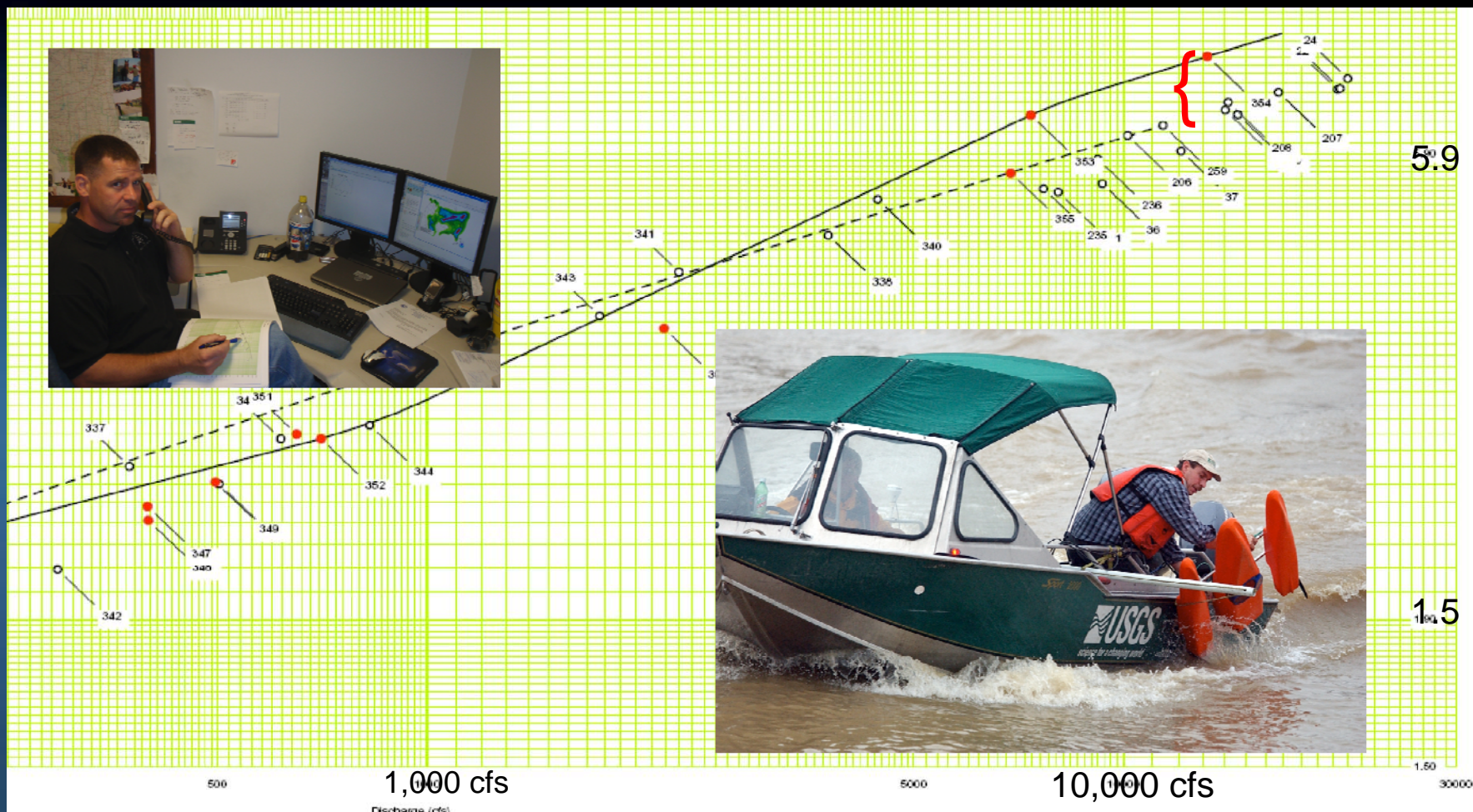




Ratings Change Because of Floods



How to Better Communicate the Change?

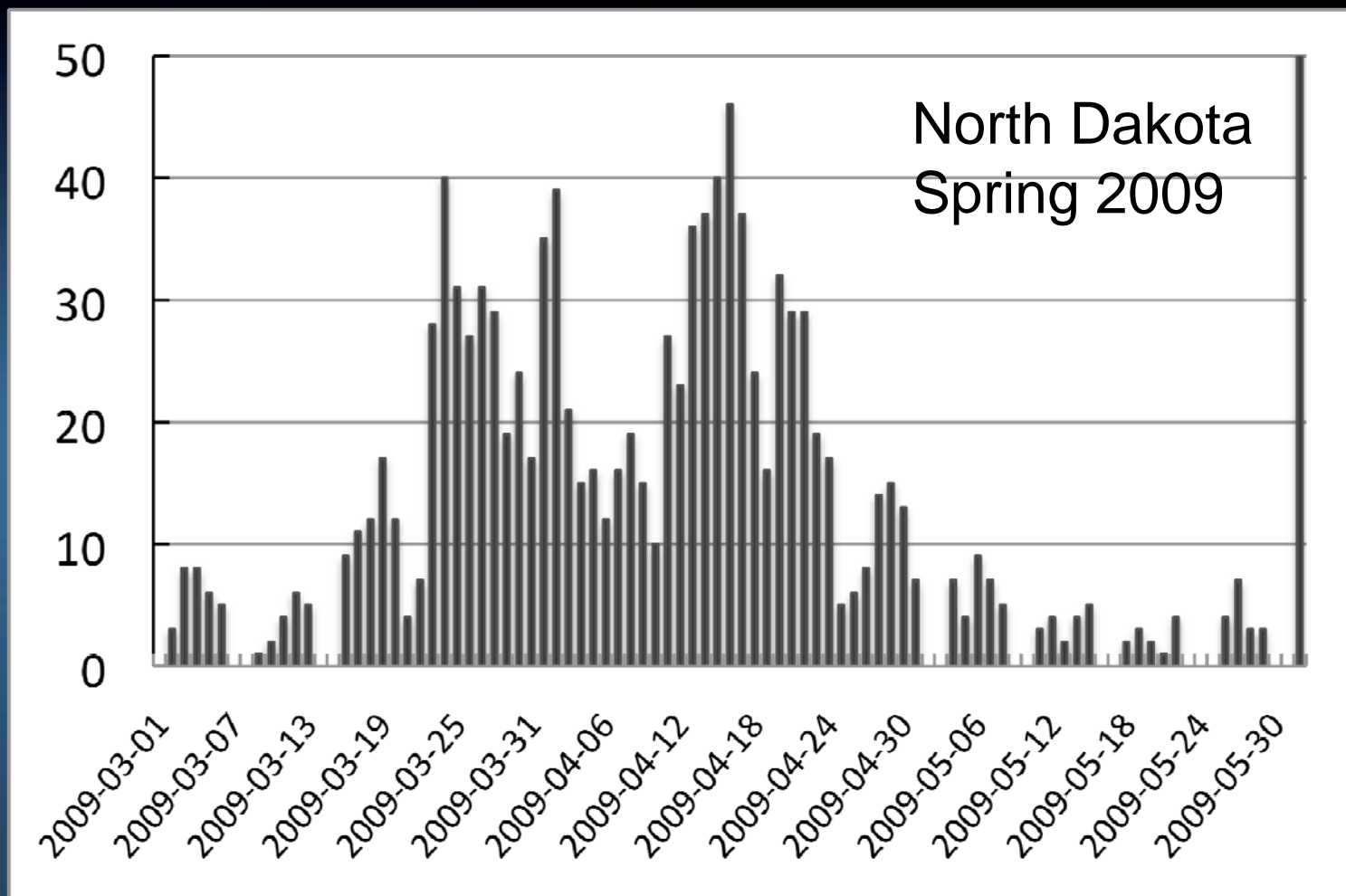


Extra Measurements of Discharge

Midwest Floods June 2008
449 Special Measurements



USGS Flood Measurements



Rapidly Deployable Gages

More
coverage
when
needed



USGS Participation in System Improvements

- **Faster, more accurate measurements**
- **Developed “rapidly-deployable gages”**
- **“Ratings depot” info sharing with forecasters**
 - Ratings and rating changes
 - Draw-down curves
 - Datum changes
- **Use NWS “Chat” to discuss data needs and share information**
- **Place USGS hydrographer in NWS RFCs**



Questions?